

part of the package. The Examiner also argues with respect to claims 6, 11, 20, 30 that the package is not one piece, the package is many pieces.

The Examiner rejected claims 19 and 20 under 35 USC 102(b) in view of Renskers. The Examiner argues that Renskers teaches a side wall, a plurality of toroid transformers, and a plurality of terminal pins.

The Examiner rejected claims 2-18 and 21-35 under 35 USC 103(a) over Renskers in view of Matsumura. The Examiner argues that Renskers teaches side wall, a plurality of toroid transformers, and a plurality of terminal pins, and Matsumura teaches a plurality of terminal pins being molded in side walls.

REJECTIONS UNDER 35 USC 112, SECOND PARAGRAPH

The Examiner argues that the transformers cannot be carried within the package, they are part of the package. Applicant respectfully traverses. It is submitted that it is clear that the transformers are carried within the package. It is believed that the transformers are within the package, so Applicant has amended the claims to remove the word "carried". The transformers are now recited as within the package.

The Examiner next argues that the package is not one piece. At page 2, line 31+ of the present application, applicant describes "an electronic surface mount transformer or case 10 in three-dimensional view", which is later described in the application as a one-piece construction with an open bottom (e.g., see page 5, lines 1+). It is believed that one of ordinary skill would understand the aspect of one-piece construction for the electronic surface mount package or case of the present invention (see, for example, applicant's U. S. Patent No. 5,656,985, issued August

12, 1997, and the claim recitations of a one-piece package, and the recently allowed claims in applicant's application Serial No. 08/773,555, filed 12/27/96).

It is submitted that Claims 2-35 are in compliance with Section 112, second paragraph. However, applicant could further amend the claims to recite that the package comprises a one-piece case, the case further including a side wall..., if the foregoing would expedite the prosecution of the present application.

REJECTIONS UNDER 35 USC 102(a)

The Examiner rejected claims 19 and 20 in view of Renskers, arguing that all the elements of the package of the present invention are in Renskers except for the surface mount pins, which the Examiner suggests are not patentably different because "intended use has no patentable significance." Applicant respectfully traverses. MPEP chapter 2100, Section 2105 under 8 says "(B) A 'nonnaturally occurring manufacture or composition of matter - a product of human ingenuity - having a distinctive name, character, [and] use' is patentable subject matter. Applicant respectfully submits that, under the MPEP, intended use has patentable significance. Also see, for example Wang Laboratories Inc. v. Mitsubishi Electronics America Inc., 41 USPQ 1263 (Fed. Cir. 1997) regarding an interpretation of claims which included the recitation of a single row of memory chips packaged in plastic leaded chip carriers for mounting on epoxy-glass printed circuit boards.

Renskers teaches a bifurcated pin, with one bifurcation used to anchor the pin in the molded package, and the other bifurcation used to connect the wires from the transformers, and is not molded within the package. Renskers teaches a pin three times as wide as the pin of the present invention for similar pin size technologies. Since microminiaturization is defined as

Halo-009

important by Renskers and is well known to be important in the art, Renskers is limited to a much larger package for a given pin count that is provided by the present invention, as shown in the figures of the present invention, such as the various views of FIG. 9. The use for the present invention for an "electronic surface mount package", as claimed, is different from Renskers because of the small package size attainable in the present invention and is not believed attainable in Renskers.

Also, the present claims are also similar to those recited in applicant's U. S. Patent No. 5,656,985, issued August 12, 1997, and the recently allowed claims in applicant's application Serial No. 08/773,555, filed 12/27/96.

REJECTIONS UNDER 35 USC 103(a)

The Examiner rejected claims 2-18 and 21-35 over Renskers in view of Matusmura. The Examiner argues that Renskers teaches the elements of the present invention, with Matsumura disclosing pins being molded into the side wall.

Applicant respectfully traverses this argument. It is well known in the art that a continuing need for further miniaturization of packages exists. Consequently, all the elements of a package are being constantly reduced in size, and the packages themselves are further reduced. One consequence has been that packages can often no longer be inserted in holes on a printed circuit board; the holes are simply too large, because there is a lower limit on how small a drill bit can be made without becoming too fragile to use. Surface mount packages (SMPs) were developed to overcome this problem, and are generally have connections or "pins" that are far smaller than the pins used, for example, in through-hole mounting (the packages used for through-hole mounting are often called dual inline packages, or DIPs).

Halo-009.

There is a lower limit on how small the pins can be, for the same reason; and the spacing between the pins is also a concern. Generally, to avoid arcing, which becomes more of a problem with SMPs due to the small sizes, the pin spacing must be about the same as the pin width, roughly. The pins are as small as the application will allow; and are generally thinner for SMP because they are not forced through a drill hole as is true with DIP.

Renskers and Matsumura both reveal their pins with extra width at the plastic for anchoring. Renskers reveals a bifurcated pin in his Fig. 4, with the total pin width about three times that of an equivalent straight pin, and even larger compared to an SMP pin, which does not have to withstand the mounting abuse of being forced through a drill hole as with Renskers. Matsumura reveals an embodiment with surface mounting capability, but still anchors the pin in the plastic, in this case by forming a semicircle with the pin so that the wiring post is disposed in the same direction as the mounting portion of the pin. Matsumura reveals his semicircular pin in his Fig. 11C.

Arguably, the SMP version of the Matsumura pin could be as small in material width as the pin of the present invention without becoming unacceptably fragile, since it can be surface mounted, but the total pin width is still three times the pin width of the present invention, due to the method for anchoring. The pin of Matsumura doubles back on itself parallel to the mounting surface for the package, and has a width-space-width characteristic versus the width only of the pin of the present invention.

Neither Renskers nor Matsumura teach or even suggest a pin with the spacing of the present invention. Further, the pin of Matsumura, like the pin of Renskers, is not molded into the package. The pin of Matsumura can be molded into an insert that becomes an internal element of the package, but is not molded into the package. Matsumura discloses prior art, with pins

molded into the package, but the prior art, as Matsumura shows, has no wiring post; the transformers must be connected to the mounting portion of the pin. As Matsumura shows by teaching it as prior art, this is an inferior method for providing pins, with the transformer wires easily subject to damage and hard to connect.

The prior art cited by the Examiner does not show the advantageous small, simple, easily wired pin of the present invention, and does not teach the advantages of transformer wire protection with easy cleaning, such as using a standoff to raise the package off a board for easy cleaning while protecting the wiring.

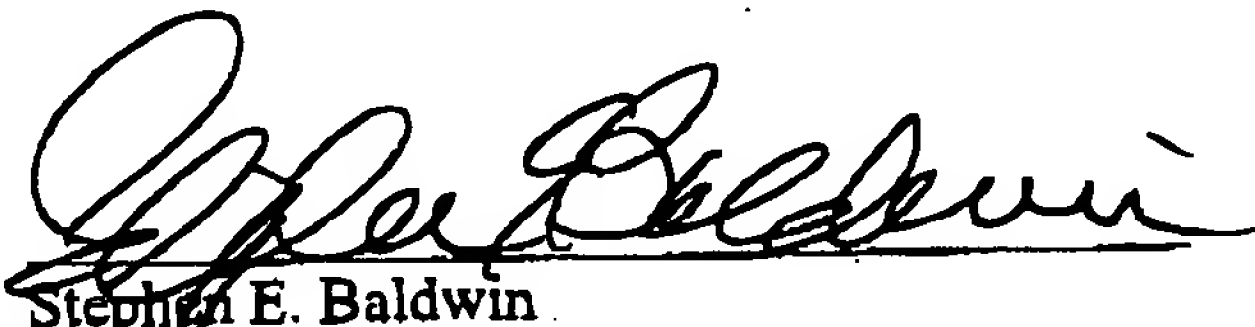
Also, the present claims are also similar to those recited in applicant's U. S. Patent No. 5,656,985, issued August 12, 1997, and the recently allowed claims in applicant's application Serial No. 08/773,555, filed 12/27/96.

In view of the foregoing, applicant submits that the present application is now in condition for allowance.

Respectfully submitted,

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Halo-009

37 CFR 1.121 (c) Version of Claims

2. (Once Amended) An electronic surface mount package for mounting onto the surface of a printed circuit board comprising:

a side wall with a bottom end,

a plurality of toroid transformers [carried] within the package, the toroid transformers each having wires wrapped thereon,

a plurality of terminal pins molded within the side wall, each of the pins extending through the side wall and having a solder post with an end upon which the wires from the transformers are respectively wrapped and soldered thereon, each of the post ends extending beyond the bottom end of the side wall.

10. (Once Amended) An electronic surface mount package for mounting onto the surface of a printed circuit board comprising:

a side wall and a standoff, the standoff defining a foot seating plane for the surface mount of the package, the side wall having a bottom end with an elevation higher than the standoff so as to be above and beyond the foot seating plane;

a plurality of toroid transformers [carried] within the package, the toroid transformers each having wires wrapped thereon,

a plurality of terminal pins molded within the package, each of the pins having a solder post with an end upon which the wires from the transformers are respectively wrapped and soldered thereon, the solder post ends extending beyond the bottom end of the side wall to a

Halo-009

position above the foot seating plane.

16. (Once Amended) The package of claim 10 wherein the plurality of toroid transformers are [carried] within the package and secured by a soft silicone material

19. (Once Amended) An electronic surface mount package for mounting onto the surface of a printed circuit board comprising:

a side wall with a bottom end,

a plurality of toroid transformers [carried] within the package, the toroid transformers each having wires wrapped thereon,

a plurality of terminal pins molded within the side wall, each of the pins extending through the side wall and having a solder post with an end upon which the wires from the transformers are respectively wrapped and soldered thereon, each of the post ends extending beyond the bottom end of the side wall.

25. (Once Amended) The package of claim 19 wherein the plurality of toroid transformers are [carried] within the package and secured by a soft silicone material

27. (Once Amended) An electronic surface mount package for mounting onto the surface of a printed circuit board comprising:

a one piece [construction] package having an open bottom and a side wall with a bottom end;

a plurality of toroid transformers each having wires wrapped thereon;

Halo-009

means for encapsulating [and carrying] the plurality of toroid transformers within the package;

a plurality of terminal pins molded within and extending from the bottom of the package, each of the pins extending through the side wall and having a solder post with an end upon which the wires from the transformers are respectively wrapped and soldered thereon.

Halo-009